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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/801,313 | 03/16/2004 | Thomas O. Kautz | 081445-0361 | 1983 |

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EXAMINER

WALLING, MEAGAN S

ART UNIT PAPER NUMBER

2863

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/801,313 | Applicant(s) KAUTZ ET AL. | |
| | Examiner Meagan S. Walling | Art Unit 2863 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 44 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-9, 11, 12, 17, 19, 20, 24-26, 28, 29, 36 and 37 is/are rejected.
- 7) ☒ Claim(s) 4, 10, 13-16, 18, 21-23, 27, 30-35 and 38-43 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 8 is objected to because of the following informalities:

Claim 8 recites the limitation "the processor" in claim 1. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 and 5-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Lakin (US 5,803,357).

Regarding claim 1, Lakin teaches a first temperature sensor configured for mounting to a structure at a first distance relative to the structure (column 4, lines 40-41); a second temperature sensor configured for mounting to the structure at a second distance relative to the structure (column 3, lines 41-42); and a processor coupled to the first and second temperature sensors and configured to estimate a third temperature based on the first and second temperatures and the distance separating the first and second temperature sensors (Ref. 30 and column 3, lines 60-63).

Regarding claim 2, Lakin teaches that the first and second temperature sensors are mounted in a housing (Ref. 10 and column 8, lines 10-12).

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Regarding claim 3, Lakin teaches that the second distance is greater than the first distance (column 3, lines 30-42).

Regarding claim 5, Lakin teaches mounting a first temperature sensor to a structure in the room at a first distance relative to the structure (column 3, lines 40-41); mounting a second temperature sensor to the structure at a second distance relative to the structure (column 3, lines 41-42); measuring a first temperature with the first temperature sensor (column 5, lines 31-34); measuring a second temperature with the second temperature sensor (column 5, lines 31-34); and estimating a third temperature from the first and second temperatures (column 5, lines 35-38).

Regarding claim 6, Lakin teaches coupling a processor to the first and second temperature sensors, and wherein the third temperature is calculated by the processor (column 3, lines 60-63).

Regarding claim 7, Lakin teaches that the first and second temperature sensors are mounted in a housing (Ref. 10 and column 8, lines 10-12).

Regarding claim 8, Lakin teaches that the processor is mounted in the housing (column 5, lines 57-58).

Regarding claim 9, Lakin teaches that the second distance is greater than the first distance (column 3, lines 40-42).

3. Claims 11, 12, 17, 19, 20, 24-26, 28, 29, 36, and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Yarden et al. (US 6,280,397).

Regarding claim 11, Yarden et al. teaches a housing (Ref. 1); a first temperature sensor mounted within the housing and configured to sense a first temperature (column 3, lines 22-24); a second temperature sensor mounted within the housing and spaced apart from the first

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temperature sensor, and configured to sense a second temperature (column 3, lines 25-27); a processor coupled to the first temperature sensor and the second temperature sensor and configured to estimate a third temperature using the first temperature and the second temperature (column 3, lines 33-38).

Regarding claim 12, Yarden et al. teaches that the first temperature sensor is positioned proximate to a first surface of the housing and the second temperature sensor is positioned proximate to a second surface of the housing spaced apart from the first surface (column 4, lines 35-39).

Regarding claim 17, Yarden et al. teaches that the third temperature is estimated from the first temperature and second temperature using an extrapolation function (column 3, lines 49-50).

Regarding claim 19, Yarden et al. teaches that the extrapolation function is a non-linear function (column 2, lines 46-49).

Regarding claim 20, Yarden et al. teaches that the extrapolation function includes a correction factor (column 2, lines 4-6).

Regarding claim 24, Yarden et al. teaches that the processor is mounted within the housing (column 3, line 33).

Regarding claim 25, Yarden et al. teaches measuring a first temperature using a first temperature mounted within a housing (column 3, lines 22-24); measuring a second temperature using a second temperature sensor mounted within the housing and spaced apart from the first temperature sensor (column 3, lines 25-27); and estimating a third temperature from the first temperature and the second temperature using a processor coupled to the first temperature sensor and the second temperature sensor (column 3, lines 35-38 and column 1, lines 43-44).

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Regarding claim 26, Yarden et al. teaches that the third temperature is estimated from the first temperature and the second temperature using an extrapolation function (column 2, lines 54-57).

Regarding claim 28, Yarden et al. teaches that the extrapolation function is a non-linear function (column 2, lines 46-49).

Regarding claim 29, Yarden et al. teaches that the extrapolation function includes a correction factor (column 2, lines 4-6).

Regarding claim 36, Yarden et al. teaches a housing (1); a first temperature sensing means mounted within the housing and configured to sense a first temperature (column 3, lines 22-24); a second temperature sensing means mounted within the housing and spaced apart from the first temperature sensing means, and configured to sense a second temperature (column 3, lines 25-27); and means coupled to the first temperature sensor and the second temperature sensor for estimating a third temperature from the first temperature and the second temperature (column 3, lines 35-38).

Regarding claim 37, Yarden et al. teaches that the first temperature sensor is positioned proximate to a first surface of the housing and the second temperature sensor is positioned proximate to a second surface of the housing (column 4, lines 35-39).

Allowable Subject Matter

4. Claims 4, 10, 13-16, 18, 21-23, 27, 30-35, and 38-43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the indication of allowability of claims 4 and 10 is the inclusion of the limitation that the third temperature is an estimate of a temperature at a third distance from the structure, the third distance being greater than the first and second distance. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art of record that makes these claims allowable.

The primary reason for the indication of allowability of claim 13 is the inclusion of the limitation that the housing is configured to be mounted to a structure of a building such that the first surface is adjacent to a surface of the structure of the building. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art of record that makes these claims allowable.

The primary reason for the indication of allowability of claims 18 and 27 is the inclusion of the limitation that the extrapolation function is a linear extrapolation function. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art of record that makes these claims allowable.

The primary reason for the indication of allowability of claims 20 and 30 is the inclusion of the limitation that the correction factor is based on estimated environmental or structural conditions of a building. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art of record that makes these claims allowable.

The primary reason for the indication of allowability of claim 38 is the inclusion of the limitation that the housing is configured to be mounted to a structure of a building such that the first surface is adjacent to a surface of the structure of the building. It is this limitation in the

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claimed combination that has not been found, taught, or suggested by the prior art of record that makes these claims allowable.

The primary reason for the indication of allowability of claim 41 is the inclusion of the limitation that the third temperature is an air temperature of a room including the wall. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art of record that makes these claims allowable.

The primary reason for the indication of allowability of claim 42 is the inclusion of the limitation that the temperature sensing device is a thermostat configured to be used with a climate control system. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art of record that makes these claims allowable.

5. Claim 44 is allowed.

The following is an examiner's statement of reasons for allowance:

The primary reason for the allowance of claim 44 is the inclusion of the limitation of a first temperature sensor configured to sense a first temperature; a second temperature sensor spaced apart from the first temperature sensor, and configured to sense a second temperature; and a processor coupled to the first temperature sensor and the second temperature sensor and configured to: estimate a heat transfer rate associated with at least one of the first temperature and the second temperature; and determine an air temperature set point based on the heat transfer rate. It is this limitation in the claimed combination that has not been found, taught, or suggested by the prior art of record that makes these claims allowable.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

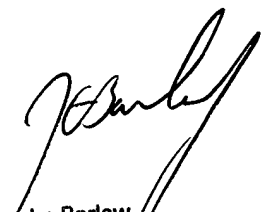
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meagan S. Walling whose telephone number is (571) 272-2283. The examiner can normally be reached on Monday through Friday 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

msw


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